

**Be in awe of education, for it shapes the soul of human,
Be cautious to technologies, for its adoption has to be effective,
Be entangled with ‘wisdom’, for uncertainty tends to be increasing,
Be serious to academics, for academic research needs evidence.**

-Dean Ronghuai Huang, delivered at the closing ceremony of the Second US-China Smart Education Conference on March 20, 2017



Smart Learning Institute
WeChat QR Code

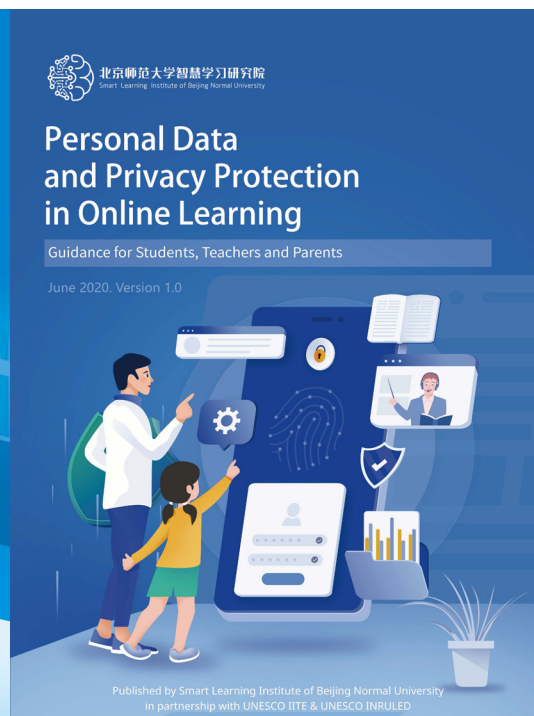
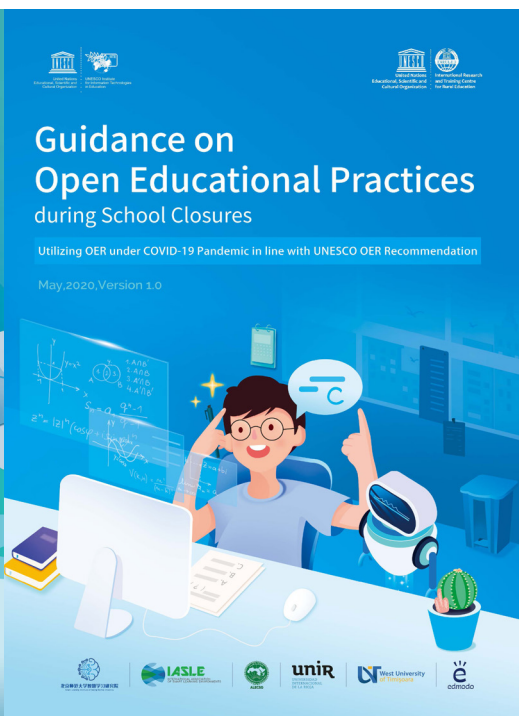
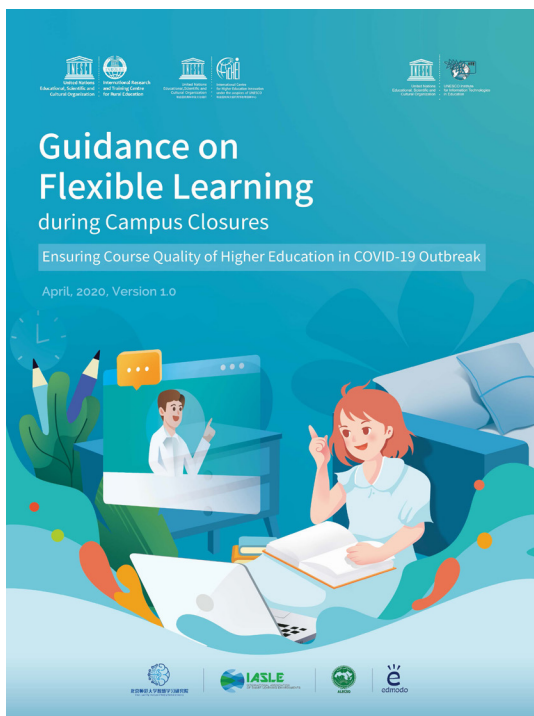
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北京师范大学智慧学习研究院
Smart Learning Institute of Beijing Normal University

Smart Learning Institute of Beijing Normal University

The Smart Learning Institute (SLI) of Beijing Normal University is a comprehensive experimental platform involving scientific research, technology development and instructional teaching, which is jointly established by Beijing Normal University and a global educational technology company, Eternity (a subsidiary of NetDragon). SLI focuses on finding learning patterns powered by ICT, creating smart learning environment and platforms for lifelong learning, as well as supporting diversified, personalized and differential learning needs for digital learners.

- ▶ Focusing on the methods of design, optimization and evaluation for learning environment as well as developing the key technologies for learning environment engineering aims at providing a widely-spread solution for promoting smart learning.
- ▶ Constructing the theory of smart learning and exploring the approaches of integrating ICT with Education aims at offering an international exchange and cooperation platform to smart learning research.
- ▶ Studying on the characteristics and patterns of schooling, family education, community education, enterprise learning and public learning aims at providing support for constructing a learning-oriented society and smart city.
- ▶ Expanding the experimental areas and schools for smart learning as well as exploring the characteristics of ICT-based instruction and the models of future schools aims at promoting educational transformation and innovation.



Co-Dean Dejian LIU

Chairman of the Board, Executive Director of NETDRAGON, The Special Allowance Expert in State Council, Co-Dean of Smart Learning Institute of Beijing Normal University, Chair Professor at the College of Education of Harvard University.

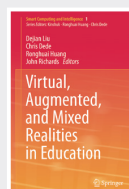


Co-Dean Ronghuai HUANG

Co-Dean of Smart Learning Institute of Beijing Normal University, Director of UNESCO International Research and Training Centre for Rural Education, Director of National Engineering Laboratory for Cyberlearning and Intelligent Technology.

Open Series in Springer

- Lecture Note in Educational Technology
Series Editors: Huang, R., Kinshuk, Jemni, M., Chen, N.-S., & Spector, J.M.
- Smart Computing and Intelligence
Series Editors: Huang, R., Kinshuk, & Dede, C.
- New Frontiers of Educational Research
Series Editors: Zhongying Shi, Ronghuai Huang, Zuoyu Zhou.



Springer's Journals

- Smart Learning Environment
(The Official Journal of IASLE)
Editors: Huang, R., Kinshuk, & Soloway, E.
- Journal of Computing in Education
(The Official Journal of GCSC)
Editors: Huang, R., Hwang, G.-J., Kong, S.-C., & Chen, W.



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Design and Learning Laboratory

Study on the features and patterns of design, computational and innovative thinking for youth; Develop courses and books about design methodology, computational thinking and ICT; Build cooperative platform with world-renowned universities, enterprises and institutes for design and innovation.



The 48H Competitive Game of Education Design (2019.01)



Discuss with Prof. Larry Leifer at d.School of Stanford University (2017.04.11)

Smart City and Learning Environment Laboratory



Release Conference of White Paper: Smart Learning Environments in China 2015 (2015.09.20)



Index Report of Smart Learning Environments in Chinese Cities



2016 Report of the Cyberlearning Products Development Index in China

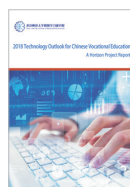
Study on the typical learning fields in smart cities and learning societies; Create database of smart learning environment; Publish serial reports on learning environment as well as service industry and products of cyberlearning.

Open Educational Resources (OER) Laboratory

Study on the solution of OER under its impact to the developing countries; Construct the OER community for The Belt & Road countries; Publish reports on the trends of ICT in education.



The Third US-China Smart Education Conference (2018.03)



Series of Horizon Report in China



At a Glance: Education Development in the Belt & Road Countries



Smart Learning and OER International High-end Forum (2017.05.25)

ICT-based Instruction Center



Initial Conference in Experimental Area of Smart Education in Fuquan, Guizhou Province



101 Education PPT Solution

Explore the methodology of integrating ICT into education with large-scale experiments; Study on the solutions of smart classroom and smart campus; Provide the services for transferring education through the bridge of the theory and practice.

Educational Robotics Center

Study on the scenarios of robotics in education and the trend of artificial intelligence; Develop the courses for robotic education and STEAM education for K-12 schools. Design educational robotic for various learning fields, such as school, family, etc.



2016 Educational Robotics White Paper: The Global Development



The Next Big Thing: Global Development Status and Trends in Educational Robotics



Prototype of Educational Robotics



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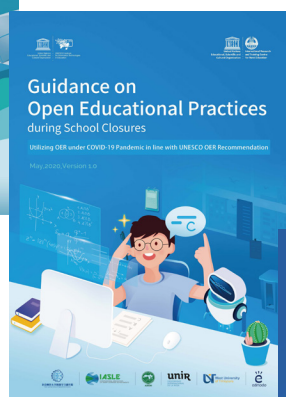
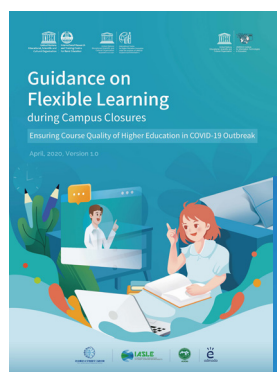
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Guidance on Flexible Learning during Campus Closures Ensuring Course Quality of Higher Education in COVID-19 Outbreak was Released

➤ On April 17, 2020, an international webinar entitled “Futures of Education: How to Assure Quality Higher education during University Closures” was held online. The webinar was organized by the Smart Learning Institute of Beijing Normal University (SLIBNU), UNESCO Institute for Information Technologies in Education (UNESCO IITE), UNESCO International Research and Training Centre for Rural Education (UNESCO INRULED) and International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO ICHEI), co-hosted by Centre for Research and Development in Learning at Nanyang Technological University (CRADLE, NTU), Arab League Educational, Cultural and Scientific Organization (ALECSO), International Association of Smart Learning Environments (IASLE), and supported by the global online learning community Edmodo, a subsidiary of NetDragon Websoft Holdings Limited. Several experts, scholars and policy-makers from China, United States, United Kingdom, Singapore, Russia and Japan were invited to share their experiences and discuss the topics on futures of education, higher education, smart education, etc., trying to seek prompt educational responses and develop innovative smart education. The handbook "Guidance on Flexible Learning during Campus Closures Ensuring Course Quality of Higher Education in COVID-19 Outbreak" was released at the webinar.



Junfeng Yang

Professor of Hangzhou Normal University

On behalf of the research project team, Junfeng Yang, Professor of Hangzhou Normal University, shared the handbook.



Dr. Tao Zhan

Director of UNESCO IITE

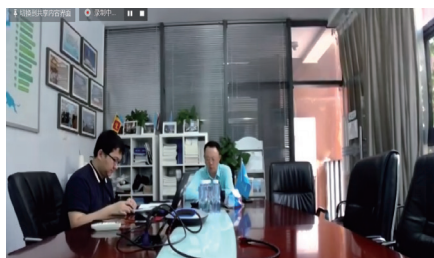
We need to take the opportunities to look to the future of education while addressing COVID-19 challenges.



Dr. Chris Dede

Professor of Harvard University, U.S.A.

He proposed the New Models for Lifelong Learning in the Global Digital Economy: The 60 Year Curriculum.



Dr. Ming Li

Professor of Southern University of Science and Technology, China, and Director of UNESCO ICHEI

ICHEI has launched the International Institute of Online Education (IIOE) platform in collaboration with many universities and enterprises. IIOE is an online platform of ICT training for teachers, especially those in developing countries, so as to help them adapt to online education as soon as possible.



Dr. Diana Laurillard

Professor of UCL Institute of Education, U.K.

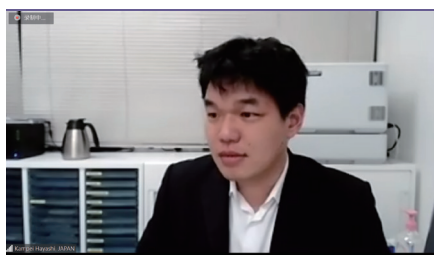
Based on several case studies about co-designing MOOC, she summarized the challenges of online teaching, and discussed how to gather inspiration, generate ideas and construct knowledge by collaborative learning.



Dr. Isak Froumin

Professor of National Research University Higher School of Economics, Russia

He mentioned that different universities responded differently in Russia. A few universities necessary to organize online education.



Dr. Kampei Hayashi

Associate Professor of Shinshu University, Japan

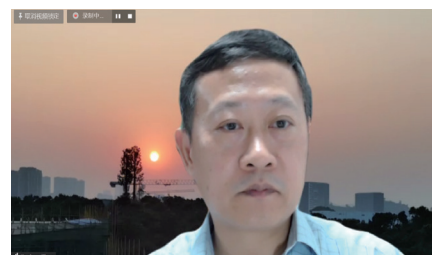
It is suggested that educators should adjust to this new flexible situation and take prompt measures, such as paying attention to the copyright regulation of educational resources, focusing on students' self-regulation abilities, and caring about students who need special support.



Dr. Chee-Kit Looi

Professor of Nanyang Technological University, Singapore

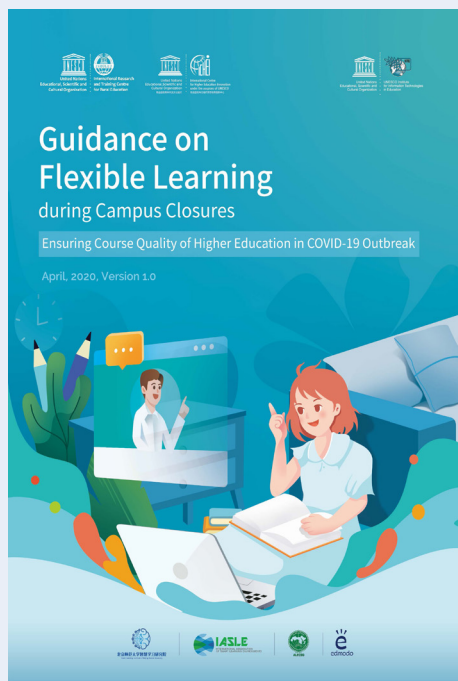
He held the view that universities need to reflect on themselves and innovate their educational systems; technological platforms may as well collect and integrate the diversified online learning models of dozens of countries and thousands of schools, so as to achieve technological innovation.



Dr. Jianhua Zhao

Professor of Southern University of Science and Technology, China, and Senior Expert of UNESCO ICHEI

We should analyze the advantages and drawbacks of higher education in the future and seek for innovative solutions based on the current educational system and statistics.



The handbook is discussed the following topics:

- Lessons Planning of Flexible Learning during Campus Closure
- Choosing Appropriate Delivery Methods for Flexible Instruction
- Preparing Materials and Tools for Learning and Teaching
- Facilitating Flexible Learning with Diverse Activities
- Checking Learning Outcomes and Evaluating Accordingly

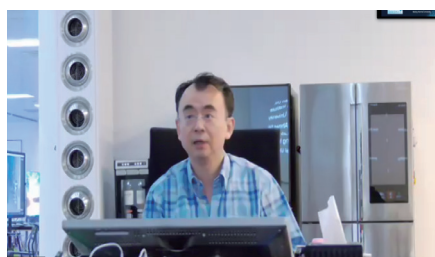
We have rethought the current situation of ICT in higher education and analyzed the change of educators' role in this handbook, discussing how to integrate formal and informal learning, bridging the achievement gap of students, as well as utilizing new technology to transform pedagogy. Based on diverse cases of higher education from China and overseas, practical suggestions for all aspects of higher education are proposed in this handbook, so as to facilitate university teachers for conducting flexible instruction to ensure the quality of learning.

Dr. Ronghuai Huang, Dean of SLIBNU mentioned in the handbook that this large-scale online learning practice in higher education means more than the response to the school closures. It is also an opportunity to consider the transformation of higher education and the integration of technology and higher education. Under the "Futures of Education" initiative, the discussion on the futures of education would never stop here. We should strengthen international collaboration, share knowledge and experience, and explore the answer of future education. In the face of the "post-epidemic" sustainability of higher education, this online education practice has inspired us to redefine the shape of the university, change the role of educators, integrate formal and informal learning, close the achievement gap among student populations, and transform pedagogy through new technologies.

Guidance on Open Educational Practices during School Closures: Utilizing OER under COVID-19 Pandemic in line with UNESCO OER Recommendation was Released

On May 8, 2020, an international webinar entitled “Advancing Open Educational Practice in line with UNESCO OER Recommendation during COVID-19 Pandemic” was held. The webinar was organized by the Smart Learning Institute of Beijing Normal University (SLIBNU), UNESCO Institute for Information Technologies in Education (UNESCO IITE) and UNESCO International Research and Training Centre for Rural Education (INRULED), co-hosted by Arab League Educational, Cultural and Scientific Organization (ALECSO), International Association of Smart Learning Environments (IASLE), Universidad Internacional de La Rioja (UNIR) and West University of Timisoara, Romania, and supported by the global online learning community Edmodo, a subsidiary of NetDragon Websoft Holdings Limited. Guidance on Open Educational Practices during School Closures: Utilizing OER under COVID-19 Pandemic in line with UNESCO OER Recommendation was released at the webinar.

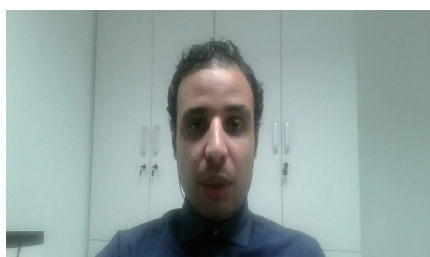
The handbook was realized by the research team led by Co-Deans Ronghuai Huang and Dejian Liu. In line with UNESCO OER recommendation, the handbook presented examples of applying OEP and OER in different countries under COVID-19, defined several OER competencies that are crucial for the application of OEP and introduced several typical OER-enabled distance learning strategies.



Mr. Dejian Liu

Chairman of NetDragon Websoft Holdings Limited; Co-Dean of Smart Learning Institute, Beijing Normal University (SLIBNU)

Emerging technologies, such as AI, will be one of the trends of OER and OEP development in the future.



Dr. Ahmed Tlili

Co-Director of the OER Lab

By presenting examples of OEP practices from different countries, this handbook shows how OER and OEP can be used effectively to improve teaching and learning during the epidemic.



Dr. Tao Zhan

Director of UNESCO IITE

The UNESCO IITE and the SLIBNU academic teams worked together during COVID-19 outbreak for jointly supporting online education worldwide.



Dr. Zeynep Varoglu

Program Specialist of the Section for Digital Innovation and Transformation, UNESCO

She encouraged all participants to jointly support online learning and knowledge sharing with OER application.



Dr. Shuaiguo Wang

President of XuetangX

He pointed out that XuetangX is working on the “Clone Classroom” to share OER across the country.



Dr. Daniel Burgos

UNIR iTED, ICDE Chair in OER, Spain

He addressed the great importance of OER in times of crises based on examples.



Dr. Mohamed Jemni

Director of ICT Department, ALECSO

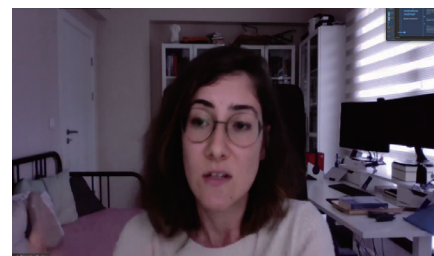
ALECSO has proposed an initiative to ensure the continuity of learning in the Arabic countries by taking the advantages of ICT, promoting wider scope of OER, enhancing OER quality, etc.



Dr. Sanjaya Mishra

Education Specialist of Commonwealth of Learning (COL)

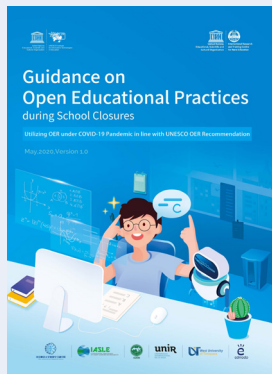
He proposed that by using OER, countries can establish an open online community to share OER online courses, assess the different needs of Commonwealth countries and provide tailored OER for online education of teachers and students.



Dr. Secil Tisoglu

Associate Professor of Kastamonu University, Turkey

She proposed a roadmap for educators to revise the content of resources, adapt them to digital platform and share them through Learning Management System (LMS).



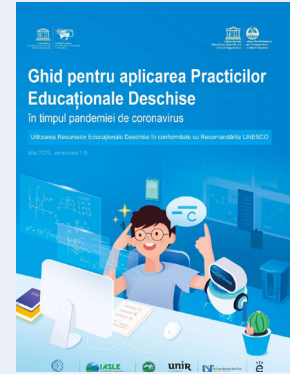
English Version



Arabic Version



Turkish Version



Romanian Version

Dean Huang mentioned that in line with UNESCO OER Recommendation, the application of OER and OEP in open education is of great significance. The Guidance can help us to better understand OER and OEP as follows:

- First, OEP can expand the opportunity of accessing high-quality educational contents for learners by: (1) creating and (re)using OER in innovative ways (e.g. social networks); and (2) providing active and engaging learning experiences where learners participate in the knowledge creation process, which can help in achieving accessible and lifelong learning.
- Second, OEP is a practice-centered approach that consists of five enablers namely OER, open teaching, open collaboration, open assessment, and enabling technology. All these enablers are interrelated, and the relations among them are mediated by technology.
- Third, learners are encouraged, during the learning process using OEP, to search for, select, and use high-quality OER while preparing their content.
- Forth, open teaching approaches within OEP are recommended to engage learners and develop their self-regulation skills by making them participate in the co-creation of knowledge and encouraging their peers within open learning communities.
- Fifth, the role of teachers within OEP is more as a facilitator where they monitor students' activities and offer assistance and encouragements when needed.
- Sixth, project-based assessments are recommended to evaluate the artifacts and works published as OER by learners.

The Guidance also provides some implications in the popularization of OER as follows:

- Developing universal courses as OER can achieve universal values
- Encouraging the integration of OER in different learning mediums
- Establishing innovative mechanisms on the use and development of OER with emerging technologies
- Facilitating research on issues related to AI ethics, privacy and data protection
- Designing new models of training about open education for several stakeholders to help them learn about innovative open school services

The Personal Data and Privacy Protection in Online Learning was Released



On June 18, 2020, an international webinar entitled “How to Protect your Personal Data and Privacy in Online Learning” was held online. The webinar was co-organized by UNESCO Institute for Information Technologies in Education (UNESCO IITE), UNESCO International Research and Training Centre for Rural Education (INRULED), Arab League Educational, Cultural and Scientific Organization (ALECSO), Smart Learning Institute of Beijing Normal University (SLIBNU) as well as International Association of Smart Learning Environments (IASLE) and supported by the global online learning community Edmodo, a subsidiary of NetDragon Websoft Holdings Limited. The Personal Data and Privacy Protection in Online Learning was released at the webinar.



Dr. Xiaoyun Wang

Professor of Tsinghua University and Academician of Chinese Academy of Sciences

As cryptography has already been applied to many areas, such as wireless communication, mobile network, Internet of Things (IOT), Big Data, cloud computing, AI, etc., it can also be utilized to facilitate effective personal data and privacy protection in online learning.



Dr. Andreas Schleicher

Director of Education and Skills, Organization for Economic Co-operation and Development (OECD)

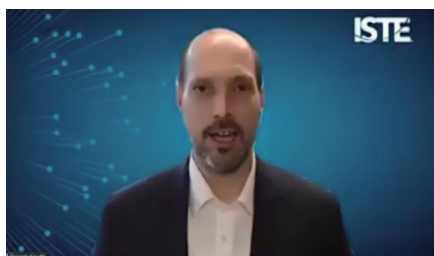
The potential risks facing personal data and privacy cannot be eliminated and risk-based approaches should be adopted with a focus on the production process, content of data, usage of data and the potential consequences.



Dr. Tao Zhan

Director of UNESCO IITE

Massive online teaching is carried out worldwide. Therefore, personal data and privacy protection have never been so urgent like today.



Dr. Joseph South

Chief learning officer at ISTE

The high-quality evaluation criteria made by ISTE also covers the responsibility of digital citizens, which provides solutions to the security issues in online learning.



Dr. Yu Yu

Professor of Shanghai Jiao Tong University

Cryptography can ensure the confidentiality and integrity of online education and should be used to secure the data and privacy of online education in many ways.



Dr. Robert Oboko

Professor of University of Nairobi

Many universities in Kenya have adopted online learning during COVID-19 pandemic. To protect students' and teachers' data and privacy, the universities have taken measures from two aspects—external access and within the platform.

Dr. Sergei Bezzateev

Professor of St Petersburg State University of Aerospace Instrumentation, Russia

Teachers, students and parents should be given different levels of reading-writing access authority respectively. With the help of hash functions, digital signature and blockchain technology, personal privacy in online learning can be protected.

Dr. Shanshan Pa

Senior Security Expert of Alibaba Cloud

The COVID-19 epidemic have accelerated the development of online learning, but students' awarenesses of online security stay relatively weak. Attention should be paid to students' personal data and privacy protection, the mechanism of which should be multi-level and needs the support of all sectors of society. Alibaba Cloud will definitely provide technical guidance and support for online teaching.

Dr. Tietao Guo

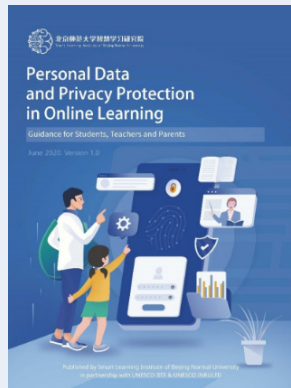
Data Security Architect of Tencent

Tencent has been committed to providing users with high-quality services to protect their data and privacy and will actively offer technical support for network security of online learning.

Mr. Dejian Liu, Co-Dean of SLIBNU, proposed that new risks emerged in online learning, such as the exposure of facial or voice information but online platform users were lack of awareness of such potential threats. Therefore, the handbook will detail all the useful recommendations for students, teachers and parents to protect their personal data and privacy and ensure the proper and effective use of personal data. Meanwhile, emerging technologies, such as AI, will also bring about new opportunities in this area.



Chinese Version



English Version

From the perspective of creating a safe online learning environment, the Guidance collects and collates the concepts, laws, regulations, protection frameworks and policies on personal data and privacy of various international organizations, countries and international Internet enterprises, and proposes five stages of online learning related to personal data and privacy security, as well as 30 related security issues and specific operational recommendations. The Guidance helps students, teachers, and parents to raise awareness of data and privacy security in online learning, and is an important reference for educational administrators to establish relevant systems and for governments, enterprises, and schools to work together to promote personal data and privacy security throughout the education industry.

The Guidance notes that online or blended learning has become a popular learning paradigm and that the following five issues deserve attention:

- First, the value of online learning deserves further notice.
- Second, the protection of personal data and privacy should be promoted urgently.
- Third, learning online could be regarded as an important way to prepare digital citizen.
- Forth, collaboration skills could be drilled by cooperative learning in cyberspace.
- Fifth, digital learning could be infused with traditional education for flexible learning.

The 1st and 2nd International Webinars: Futures of Education from students' Perspectives were Successfully Held

Inspiration and Lessons-learned from Campus Closure

On May 16, the 1st "Futures of Education" Webinar was held online, which was planned and organized by more than a dozen college students. The theme of this webinar is "Inspiration and Lessons-learned from Campus Closure". More than 400 college students from over 10 countries around the world conducted a dialogue across national borders as well as time and space.

The webinar was hosted by Beijing Normal University (BNU) and organized by UNESCO International Research and Training Centre for Rural Education (UNESCO INRULED), UNESCO Institution for Information Technologies in Education (UNESCO IITE) and the Smart Learning Institute of Beijing Normal University (SLIBNU). Experts and college students from all over the world talked about future education, aiming to see the future through pandemic situations, to see the world through students, and to see education through design.

First, Professor Zuoyu Zhou, Vice President of Beijing Normal University, and Professor Tao Zhan, Director of the UNESCO IITE, delivered speeches respectively.

Experts from various countries shared their views on future education, including professor Chee-Kit Looi from Nanyang Technological University in Singapore, Jonathan Shaw, Executive Director of the Asian Institute of Technology Development, Mr. Dejian Liu, co-dean of Smart Learning Institute of Beijing Normal University, and Steven Duggan, Director of the UNESCO Institute of Information Technologies in Education.

Student representatives analyzed advantages and disadvantages of traditional and online education, and imagined the future education, based on their experience during the epidemic. They believed that future education should feature more technologies, customized teaching content, comfortable learning environment and being student-centered. Meanwhile, there may be problems including insufficient access to electronic products, lack of self-discipline and impacts from global issues.

Two students from Beijing Normal University shared their opinions. Xiao Keke hoped that schools and the government could build more knowledge-sharing platforms and that a variety of existing technologies and software could be used to improve the quality of online education. Ziqi Ma shared platforms used by Chinese universities for online learning and his experience in accepting distance learning courses, meeting challenges and overcoming difficulties.

Xinyi Qin, a student from Munich university, demonstrated the courses and feedback offered by teachers on multiple platforms, as well as the support of various local organizations for education in different forms.



She believed that in the future, advantages of online education should not be ignored, and interpersonal interaction should also be taken into consideration.

Arlene Gonzales, an AIT student from the Philippines, argued that traditional education could spark innovation when blocked, and compared the differences between traditional and online education. In her view, in the future, education would combine more technologies and be delivered in a way where remote learning plays a larger role. Moaz Altaf, a student from Pakistan, shared the challenges faced by students overseas during the COVID-19 outbreak and showed how he adjusted himself through indoor exercise and resources from online educational platforms. He believed that there might be more global issues in the future such as economic depression, climate change and population explosion, and called on young people to face the challenges together. Hilda Garcia, a Dominican student at the IE business school in Spain, talked about the low penetration rate of computers and other electronic products in poor and underdeveloped areas and considered this a huge challenge for the widespread use of new technologies in future education. She believed that education in the future would be more student-centered, and data and virtual reality based, and it would put forward potential challenges along the way.

As one of the organizers, Smart Learning Institute of Beijing Normal University has been an active role in exploring the forms of "future education". Professor Ronghuai Huang put forward that this "Futures of Education" forum which was planned and organized by 14 volunteers, with the aim of promoting educational and technological advances and providing a platform for communication and exchange of ideas for global experts and college students. In this case, more and more outstanding young people's insights could be made known to the world. This forum provided an opportunity for experts, college students and audience to genuinely think about how to solve the complications emerging in distance education, how to design online classrooms to solve the actual teaching problems, and what kind of educational design can maximize the benefits of online education. Although we could not find the perfect answer to all the questions at the webinar, what is the most important is that this forum will take us one step closer to a better educational design for the future. As the forum continues to take place, on the one hand, it responds to UNESCO's "Futures of Education" initiative in 2019; On the other hand, in the face of the impact of the epidemic and the rapid development of artificial intelligence, the forum also aims to explore various ways of integrating education and artificial intelligence in order to encourage the continuous emergence of more quality platforms and content.



Existing Stories and Unrestrained Imaginations

On June 14, the 2nd “Futures of Education” Webinar was held online. The theme of this webinar is “Existing Stories and Unrestrained Imaginations”. Nearly 400 undergraduates and graduate students from around the world listened to the webinar presentations online and participated in roundtable discussions.

The webinar was hosted by Beijing Normal University (BNU) and organized by UNESCO Institution for Information Technologies in Education (UNESCO IITE), UNESCO International Research and Training Centre for Rural Education (UNESCO INRULED) and the Smart Learning Institute of Beijing Normal University (SLIBNU), Student Union of Beijing Normal University (SU-BNU) and Graduate Student Union of Beijing Normal University (GSU-BNU).

Experts from various countries shared their views on the webinar topic, including Dr. Tao Zhan, Director of UNESCO IITE, Professor Michael Meimaris from National and Kapodistrian University of Athens, Associate Professor Kampei Hayashi from Shinshu University, and Bijay Dhungana, the Vice-President of ICEFIL.



Memory Chipeta, a first-year graduate student from Malawi, Africa, described that how the local school had managed to overcome the epidemic and maintain classes. He expected that in the future, through the provision of network hardware and comprehensive curriculum reform, teachers would be trained in ICT, students would be able to choose the courses they want, and more teachers would be recruited to teach small classes online and offline.

Olesya Gladushyna, a third-year graduate student from Ukraine, believed that peer and mixed-age learning environments both have advantages and disadvantages, and that Ukrainian universities have made a good attempt to offer informal courses without age restrictions. Adult education should be given more attention, and governments and international organizations should call on education stakeholders to invest more actively in adult education in which universities have great potential.

Xinyi Du, a first-year graduate student from China, believed that students' non-intellectual factors (ideals, motivation, interests and other components of personality consciousness, as well as emotions, feelings and other factors) played a crucial role in promoting intelligence and ability development.

Sharon Novita Herlambang, a first-year graduate student from Indonesia, argued that the government concerned that national exams would make students feel pressured and make learning less meaningful because they focused on getting good grades rather than acquiring knowledge and ability.

Metaxia-maria Argyropoulou, a first-year graduate student from Greece, believed that digital storytelling could really help people during home quarantine. She hoped that digital storytelling would become more popular in the coming years and may even one day be incorporated into the official curriculum in schools around the world. Because it's a great way to show people that technology has a humanitarian side beyond its initial role.

As one of the organizers, Smart Learning Institute of Beijing Normal University has been an active role in exploring the forms of "future education". Co-Dean Ronghuai Huang introduced that UNESCO announced Futures of Education initiative in 2019 to explore the future of education in 2050 and beyond, hoping to shape it through debate and discussion.



The Seminar on the Application of Educational Blockchain Technology in Xiong'an New Area



On May 29th morning, Smart Learning Institute of Beijing Normal University and Public Service Bureau of Xiong'an New Area Administrative Committee jointly launched “the Seminar on the Application of Educational Blockchain Technology in Xiong'an New Area”. To promote the Demonstration Zone of Smart Education in Xiong'an, the seminar focus on the scenarios, the feasibility and the scientificity of blockchain technology applied to the education career of Xiong'an New Area.

More than 20 participants joined the discussions virtually and proposed advice for the development of smart education of Xiong'an. Those participants are the leaders from Public Service Bureau of the Xiong'an New Area Management Committee, China Xiong'an Group Digital City Company, and the experts specialized in education technology, blockchain, artificial intelligence from Beijing Normal University, Renmin University of China and Capital Normal University, and the representatives from blockchain technology enterprises.



Shaohua Xia

Deputy Director of Public Service Bureau of Xiong'an New Area

Blockchain technology can be pioneered in the application of education and paves its way on innovation, especially in the application of blockchain technology to student academic evaluation



Fati Wu

Dean of School of Educational Technology of Beijing Normal University

During the confirmation, circulation and sharing of educational data, blockchain technology is used to establish a credit mechanism and promote the trustworthy smart education applications. Characterized by traceability, retention and non-falsification, blockchain technology is able to promote education equality to a certain extent.



Shengling Wang

Professor of School of Artificial Intelligence of Beijing Normal University

When applying the blockchain technology to education, data security and privacy should be highlighted. Thus, a privacy-protection mechanism for students should be found in case of data leakage and abuse.

**Guang Chen**

Professor of Beijing Normal University

Students are the subject of learning, so it is vital to stimulate the learning motivation of students.

**Jinchuan Chen**

Professor of Renmin University of China

Blockchain technology can be applied to the reliable sharing and verification of educational data because of its authenticity, reliability, low cost, and non-falsification. By establishing authoritative platform, the problems in the field of education such as the authentication of competition certificates and the low credibility of non-academic education.

**Haijun Zeng**

Deputy Dean of Smart Learning Institute of Beijing Normal University

When introducing the mature technology, it is a prerequisite that the application of blockchain should adapt to the real situation to truly serve the education management. Also, a propriate structure including the aspects of technologies and organizational management is a necessity to form effective solution. Besides, a team of experts should be found to develop a mechanism empowered by the synergy of government, industry, education, research and application.

**Haiguang Fang**

Professor of Capital Normal University

The implementation of technology needs to be carried out in stage and piloted under control in a controlled scope. The construction of blockchain and big data platforms are parallel and support mutually. The different scenarios are precisely positioned and then implemented it. An open and iterative technical framework is adopted in the blockchain platform. We should strengthen the basic research and establish data standards and norms.

**Lei Fan**

Professor of Capital Normal University

The application of blockchain technology in education should be regarded as a kind of infrastructure construction. Characterized by non-falsification, blockchain technology can play an irreplaceable role when establishing students' overall quality evaluation files.

Enterprise Representatives

Yi Zheng

Director of Global Strategy Department of Data Center, Lenovo Group Ltd.

Methodological guideline and “blockchain thinking” are necessary when applying blockchain technology. The development of the technology should be driven by scenario to connect and reshape value relations. Via practicing, Yi Zheng’s team summarized a “4D” methodology abbreviated by discover, design, deploy, and distribution.

Xin Liu

Party branch secretary of Xiong'an Group Digital City Company

Xiong'an New Area attaches importance to the research of blockchain-basic technology and the construction of a safe, self-developed and controllable underlying technology. At the same time, Xiong'an New Area is also participating in the formulation of international blockchain standards. It is hoped that experts and leaders in the field of blockchain can jointly speed up the application and conversion, and actively explore more applying scenarios of blockchain technology, so as to promote the integration between blockchain thinking and Xiong'an city construction.

Wei Cui

Senior Programme Specialist, Tianwen Digital Media Technology

The application of blockchain technology must follow four basic construction principles:

First, meet the national requirements for education and blockchain development.

Second, meet the needs of long-term development needs of the education blockchain in Xiong'an New Area.

Third, build a new governance model of education development in the demonstration area to realize the transformation from one-way governance to closed-loop governance.

Fourth, reshape the new scenario of education and teaching applications to realize the full scene and full role coverage of parents, teachers and students.

Commencement of the 14th Five-Year Plan for Education Informatization of Beijing Municipality



On May 20th, the Founding Ceremony of Beijing Research Base of Education Informatization Strategy and the Opening Ceremony of Editing the Developing Plan of Education Informatization of Beijing were co-organized by Beijing Municipal Education Commission and the Smart Learning Institute. Experts and leaders from Beijing Municipal Education Commission, Beijing Education Network and Information Center, Peking University, Beijing Normal University, Capital Normal University, Beijing Institute of Education, Beijing Academy of Educational Sciences, Tsinghua University XuetangX, the Experimental High School Attached to Beijing Normal University and other institutions attended the meeting. Focusing on the key aspects and the main tasks of the education informatization in Beijing during the "14th Five-Year Plan" period, instructive suggestions were put forward during the meeting discussions. The meeting was chaired by Peng Tian, Deputy Director of Education Department of the Beijing Municipal Education Commission.

On June 9th, Thematic Seminar on the Developing Plan of Education Informatization of Beijing was held. Leaders and experts from Beijing Municipal Education Commission, Beijing Education Network and Information Center, Beijing Academy of Educational Sciences, Peking University, Beijing Normal University, Capital Normal University, National Vocational Education Steering Committee of Industry and Information Technology, Tsinghua University XuetangX and other units attended thematic seminar to discuss various research projects, developing paths and policy proposals on Beijing's education informatization during the "14th Five Year Plan" Period. The meeting was chaired by Fati Wu, the dean of School of Education and Technology of Beijing Normal University.

As the group leader of the Steering Committee of Expert, Dean Huang proposed some suggestions as following:

1. Internet is a part of basic public service playing an important role in Beijing's education development such as "classroom on the air", Beijing Digital School, and the Smart Learning Partner by the Advanced Innovation Centre for Future Education. These platforms are national paradigms now and could be the international paradigms in the future. Thus, they need further reflection in the future plan.
2. During the cooperative research with the relevant organizations of UNESCO, we proposed the worldwide concept of "universal class", which means that the curriculums like languages, mathematics, physics and other subjects in basic education can be advanced by informatization. It can be introduced to Beijing in the future.
3. The technologies like blockchain, AI and big data will play more significant roles in Beijing's education in the future, especially in talent selection, comprehensive quality evaluation of students, and education monitoring.

4. Attach importance to the difficulties and hot issues in the education development of Beijing such as educational balance, digital divide, the cultivation of innovative talents and preschool education, etc. To offer more data to the drawing of the Plan, the survey shall be based on the urban-rural comparison and implemented in the teaching practice of all districts of Beijing.

5. The drawing of the Plan should be oriented to 2035 from an international perspective. The orientation of Beijing's education shall be based on the comparison with the education of developed countries and cities.

Beijing Normal University held its first online doctoral thesis defense smoothly



On May 17th, 2020, Beijing Normal University held its first online doctoral thesis defense smoothly.

Yang Tian and Jing Du, PHD students majoring in educational technology in the Faculty of Education passed the defense successfully. The Chairman of the Defense Committee was Professor Yan Dong from the Faculty of Education of Beijing Normal University. The committee members included Researcher Song Li from the Open University of China, Professor Haiguang Fang from Capital Normal University, and Professor Yanyan Li and Professor Yushun Li (researcher) from Beijing Normal University. Qingyun Tu, vice president of Beijing Normal University, Kewen Hu, director of the Academic Degrees Office, and Professor Mang Li, vice minister of the Faculty of Education attended the defense meeting.



The defense meeting was mainly conducted on the ZOOM platform. Professor Yan Dong first announced the list of Defense Committee, and the supervisor, Professor Ronghuai Huang, introduced the basic situation of the degree candidates. The candidates read out the Statement of Originality and presented thesis content. Afterwards, the members of the Defense Committee asked questions while the candidate answered questions. After that, the Defense Committee held an internal meeting to vote anonymously. In the end, Professor Yan Dong announced the voting result and resolutions, signed her name and displayed them on the screen. The four-hour online defense meeting ran smoothly and successfully. All procedures were the same as offline defenses, with a dedicated person responsible for minuting the entire process by screen recording. At the same time, WeChat groups were used as a supplement in case of emergency. The defense votes were conducted through the WeChat mini program which had been prepared by the defense secretary in advance. After the vote, it was defense secretary who counted the ballot.

Vice President Qingyun Tu showed his full appreciation for the work of the Defense Committee and the preparations of the Graduate School and the Faculty of Education. He pointed out that the online defense achieved success out of the smooth procedure. Since the COVID-19 outbreak, all faculties of Beijing Normal University have been making effort to ensure degrees quality allowing the eligible students to graduate in time. Online defense, as a brand-new way, has been attached to great important by every department of university at all levels with the goals of “unreduced procedure, high standards and flexible methods”. It is hoped that the online defense will be extended to other faculties to minimize the impact of the epidemic.



The AI Course initiated by Eternity Helps "the Youth Artificial Intelligence Innovation Initiative"

 Eternity is great supporter of "the Youth Artificial Intelligence Innovation Initiative" (also known as "Yuanzhuo Initiative") in high-quality learning resources. It popularized the knowledge of AI among teenagers by the course 15 Questions about AI and share its practice experience and cases studies.


"The Youth Artificial Intelligence Innovation Initiative" provides rich resources and courses, including artificial intelligence research oriented to primary and secondary schools, real algorithm cases of enterprises and scientific research institutions, software and hardware resources, data sets, and live-playback videos, etc. "15 Questions about Artificial Intelligence" provided by Eternity is a special thematic lesson about the development of artificial intelligence technology and relevant news. By short videos, it popularizes the basic knowledge of AI, display the AI technology at present and in the future and build up a basic knowledge framework for the learner, which allows teenagers to have more opportunities to be exposed to the pragmatic and advanced AI and have their mind sharpened when keeping up with the times.



Teachers are using 101 PPT——AI teaching assistant for teaching on-site.

Having been devoted to the digital education for many years, NetDragon has been constantly innovative in their products. So far, it has set up a product matrix of AI education integrating various products such as 101 Education, AI Teaching Assistant, 101 E-textbooks, 101 Virtual Laboratories and Educational Robots, etc. In addition, in December 2019, the three-dimensional course named "Artificial Intelligence" jointly developed by NetDragon, Shanghai Educational Technology Center and Shanghai Education Publishing House was also piloted in Shanghai, marking a further attempt of NetDragon on the AI education track. Dr. Li Xiong, the deputy director of the National Engineering Laboratory for Cyberlearning and Intelligent Technology and the CEO of NetDragon, said to realize the 2000-year-old principles of "teaching students according to their aptitude", NetDragon will keep the concentration on exploring future education to form "3E Future Education" abbreviated by "Engaging", "Efficient" and "Effective" via merging the AI technology to the current pedagogies and learning approaches.

Dean Huang Attended the Open Online Class on the Education Plan During “the 14th Five Year Plan” and Delivered a Speech

 Relying on its powerful experts and think tank, National Center for Schooling Plan Program of the Ministry of Education found a series of online courses about the education planning during “the 14th Five Year Plan” and on the online class platform Guoyu Lecture to provide the supports of research and practice for the high-quality development of education.

On April 23rd, Dean Huang was invited to introduce “the New Opportunities and Challenges of Education in the 5G Era” as the keynote speaker.



Four opportunities

1. Make use of the national development strategy of 5G to accelerate the development of innovative 5G application”.
2. Develop the infrastructure of education informatization by the world-pioneering 5G technology.
3. Extend the space of school education by 5G virtual-real.
4. Optimize resource allocation and promote educational balance by the advantageous experience in the online education.

Five Challenges

1. Expansion of application scenarios: the recognition and application of new scenarios are still limit-accepted in the emerging period.
2. Natural interaction between teachers and students: the natural interaction and emotional interaction between 5G Cloud-Internet-Terminal and teaching process should be increased.
3. Security of Privacy and Data: both the privacy in the tremendous education data and the data security in multimode transmission are great concerns.
4. Specialist insufficiency: the technical supports and operational maintenance are badly when 5G technology merging into education.
5. The optimization of education governance: education governance should be synergized by AI and massive data.

Six Recommendations

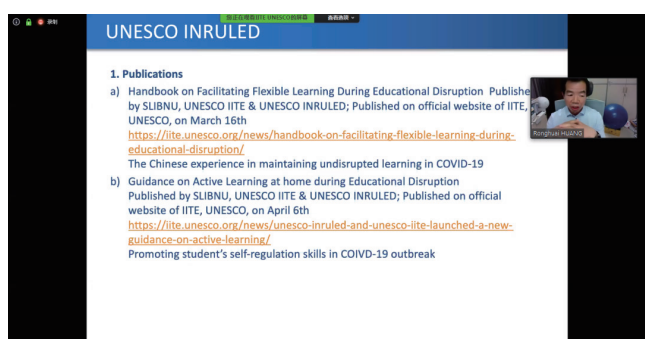
1. Strengthen the exploration of 5G application scenarios to meet diverse needs learning methods.
2. Strengthen the construction of 5G testing environment to effectively serve the education and teaching process.
3. Strengthen the development of 5G integrated technology and connect with VR/AR and AI to build a smart education environment.
4. Strengthen the deployment of 5G infrastructure and help high-quality construction of "Broadband Network School-to-School".
5. Strengthen the construction of 5G public platform to promote the service industry in the innovative and intelligent education demonstration zone.
6. Strengthen the dissemination of 5G knowledge, paying more attention to the needs of rural education development.

Dean Huang was invited to participate in the partnership meeting organized by UNESCO

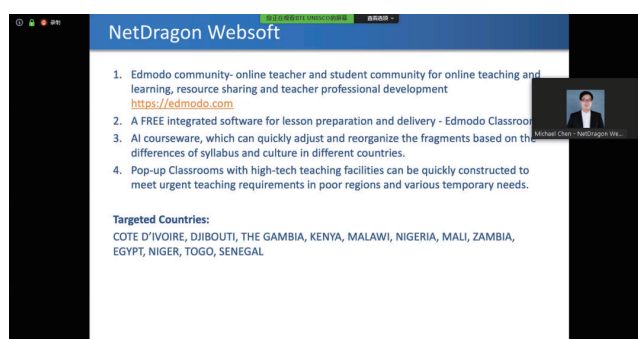


On April 28th, at 23:00 (China Standard Time) UNESCO Nairobi, UNESCO IICBA, and UNESCO IITE jointly organized an online partnership meeting with the theme of promoting the development of Africa amid Covid-19 pandemic.

Dean Huang introduced Guidance on Flexible Learning during Campus Closures: Ensuring Course Quality of Higher Education in COVID-19 Outbreak and Guidance on Active Learning at Home during Educational Disruption: Promoting Students' Self-Regulation Skills in COVID-19 Outbreak which were jointly issued by UNESCO International Research and Training Centre for Rural Education, UNESCO Institute for Information Technologies in Education Smart Learning Institute (SLI) of Beijing Normal University respectively on March 16th and April 6th. He also introduced a project on digital citizenship and personal data security which is being co-planned by UNESCO International Research and Training Centre for Rural Education and Smart Learning Institute of Beijing Normal University.



Dean Huang delivered a speech.




Mr. Hao Chen from NetDragon gave a speech.

NetDragon has offered African countries the assistances of online class. For example, Edmodo Community is designed for online class, resources sharing and the professional development of teachers; Edmodo Classroom, a free integrated software, is for lecturing and lesson preparing; AI courseware is able to make quick adaption in accordance with the varieties of cultures and syllabus in different countries. The countries that NetDragon mainly targets to are Côte d'Ivoire, Djibouti, Gambia, Kenya, Malawi, Nigeria, Mali, Zambia, Egypt, Niger, Togo, Senegal.

The meeting pooled various suppliers of online education around the world, including the technology giants such as Google, Facebook, Coursera and Huawei, the online Academy like Hamdan Bin Mohamed Smart University from Abu Dhabi, and the UNESCO affiliated agencies such as the International Centre of Higher Education Innovation under the auspices of UNESCO and China National Commission for UNESCO. All participants introduced what they have assisted with the education of Africa amid the Covid-19 pandemic.


Dean Huang attended the Webinar on Digital Learning and delivered a speech.

 China Construction Bank University held “the Webinar on Digital Learning” and invited the experts and scholars from home and abroad to discuss the issues of theory and practice in the digital learning. On April 28th, Dean Huang was invited to give a lecture entitled "Policy Interpretation and Practice of Digital Education at Home and Abroad" to the audience.



Based on the in-depth interpretation of digital education at home and abroad, Dean Huang analyzed the reports on education quality around the world and the policies related to digitalized education by United States, Australia, Deutschland. He pointed out, AI will bring 3 core values of learning, teaching and management and lead to 3 topics of policies setting, talent cultivation and applied ethics. Dean Huang further introduced the relevant policies of education informatization in China to the audience. Amid the Covid-19 pandemic, China's education is characterized flexible teaching, active learning, on-demand selecting, diversity respecting, resources opening, technology supporting, government leading, schools organizing and school-family collaborating to respond the initiative of “Disrupted Classes, Undisrupted Learning”. Dean Huang also summarized 7 keys to support the initiative: unimpeded communicative platforms, appropriate digital resources, facilitated learning tools, diverse learning methods, flexible teaching organizations, effective supporting services and close collaboration between government, enterprises and schools.

Dean Huang attended the Webinar Entitled "Teaching Innovation in Basic Education: from Online Teaching to Mixed Teaching"

 At present, influenced by the Covid-19 pandemic, online teaching was fully adopted in basic education. As the pandemic is being contained nationwide, it will be generally developed to the mixed teaching combining the online and offline approaches. On April 26th, 2020, the first Webinar entitled "Teaching Innovation in Basic Education: from Online Teaching to Mixed Teaching" was co-held by the Institute of Basic Education Reform and Develop of East China Normal University under the auspices of MOE Project of Key Research Institute of Humanities and Social Sciences and the School of Open Learning and Education of East China Normal University, to discuss the basis and core of this pedagogical innovation, display the thinking and experience with paradigmatic significance and propose innovative advice for improvement. Leaders, scholars, teaching trainers and teachers were invited to address speeches and share experience. Dean Huang was invited to make a speech entitled "Analysis on the Pedagogical Form in the Future: Flexible Teaching and Active Learning".

He summed up 7 keys to achieve "Disrupted Classes, Undisrupted Learning" by online education: unimpeded communicative platforms, appropriate digital resources, facilitated learning tools, diverse learning methods, flexible teaching organizations, effective supporting services and close collaboration between government, enterprises and schools. He also proposed 7 suggestions for active learning at home during school closure: balanced playing, scheduled learning; on-demand learning, family-school interacting; online communicating, group studying and cooperating; family accompanying, self-regulating; tool facilitating, self-evaluating; regular reviewing, idea sharing; moderate exercising for physical and mental health.


首届“基础教育中的教学创新：从线上教学到混合教学”
云论坛(2020年4月26日)

CIT 互联网教育智能技术及应用
国家工程实验室

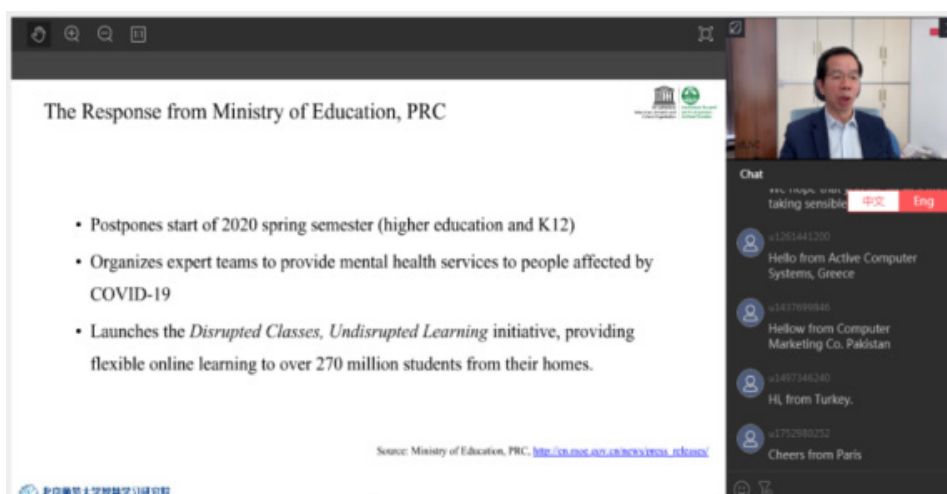
教育“未来”之教学形态分析：
弹性教学与主动学习

黄荣怀
北京师范大学智慧学习研究院
互联网教育智能技术及应用国家工程实验室

Dean Huang attended the Huawei Global Summit Entitled "Technology Safeguards Life"

 From April 7th to 9th, 2020, Huawei hosted a global summit entitled “Technology Safeguards Life” and invited the practitioners from various fields such as healthcare, transportation, and education to sharing the experience of combating Covid-19 pandemic. In the parallel sessions of education on April 9th, Ronghuai Huang, the dean of Smart Learning Institute of Beijing Normal University shared the experience on the implement of flexible teaching amid pandemic.

At the beginning, Dean Huang introduced the rapid response and guidelines made by the Ministry of Education in the early stage of the epidemic, which ensured the safety of students and their undisrupted learning at home. At the same time, the Ministry of Education issued a new policy document on supporting the education by informatized approaches amid the pandemic, which includes improving cyber infrastructures, promoting the service of platform, pooling various resources from society, adopting appropriate pedagogies, optimizing education management services, and strengthening network security.



The initiative of “Disrupted Classes, Undisrupted Learning” is actually the largest practice of online education providing flexible teaching, on-demand content for learning and open educational resources. In addition, it is necessary to have government leadership, school management, home-school collaboration and the participation of the whole society. Dean Huang further introduce the learner-centered pedagogy of flexible teaching to promotes "3E" learning abbreviated by “easy learning”, “engaged learning” and “effective learning.”

Based on China's current experience and practice, Dean Huang summarized the 7 core elements to promote super-large-scale Internet education organizations: unimpeded communicative platforms, appropriate digital resources, facilitated learning tools, diverse learning methods, flexible teaching organizations, effective supporting services and close collaboration between government, enterprises and schools.

Project Status

In-depth Cooperation with Beijing Normal University Education Group



The Guidance on Intelligent Campus Construction and the Standards of Intelligent Campus assisted project review of informatization of the Affiliated Schools in the Binhai New District of Tianjin and Puyang City in Henan Province. “the Constructive Plan of NetDragon Intelligent Campus” has been submitted to the group and merged to integrated plan. NetDragon will be responsible to both single business and multi business.

By Yongzhong Wang

The Establishment of Network of Foreign Experts



In this quarter, academic cooperation has been made with 49 foreign experts which covers the academic institute of 17 countries including Russia, the United States, Tunisia, Italy, Spain, Iran, Morocco, South Korea, Romania, Nairobi, the United Kingdom, Germany, Norway, Japan, Australia, Turkey, and Estonia, etc. Long-term cooperation can be built with the five of them. Also, 4 Webinars were held with more than 600 participants. Besides, 3 handbooks were issued.

By Tingwen Chang

The Development Plan of Education Informatization of Beijing Municipality during the “14th Year Plan” Period



Complete the scheduled work of work plan, team establishment, investigation of requirements and make summarizations. Draw the work plans for different departments based on Pinggu District's Plan of Education Reform and Development during “the 14th Five Year” Period and the Counsels from Pinggu District Education Commission. The achievements of education information have been transformed to the academic publication such as the paper entitled “How to Recognize and Respond the Acute Sense of Out-of-Control amid Online Teaching”

By Yongzhong Wang

Support the Construction of Smart Education Demonstration Zone in Xiong'an New Area



Three-Year Action Plan for Smart Education in Xiong'an New Area (2020-2022) is being organized and promoted. An expert seminar has been held to summarize professional opinions and reviews for adaptations. Support the implement of smart campus and the projects of smart classroom selections. Organize an expert seminar on the educational application of blockchain technology education in Xiong'an New Area.

By Yanli Jiao

Five-Year Plan for Smart Education Construction in Wuhou District, Chengdu



To revise the plan, several seminars have been held by the project team and the Education Bureau of Wuhou District. According to the counsel by the Education Bureau of Wuhou District and Institute of Education Sciences in Wuhou District and other units, the original framework covering 7 key projects and 24 specific tasks were adjusted to 9 key projects with 20 specific tasks. Specific tasks will be ongoing according to concrete developing goals, methods and 3 nodes in 2019-2020, 2021-2022, and 2023.

By Yongzhong Wang

Yuanzhuo Project



The project has completed 20 AI research projects which are suitable for primary and secondary schools, and 3 of them were adopted by 3 schools.

There are more than 1000 registers on the education platform of AI and computational thinking, 1300 pieces of uploaded resources, and almost 2000 person-time class learning, and 21 online activities held. The function of online programming is newly added. Besides, there are 64 pieces of resource uploaded by Tik Tok, among which the views of "Telling Story by Bayesian Algorithm" have reached 136,000.

By Yongjie Yao

The Collection of Global Public Opinion



As the Covid-19 pandemic is constantly spreading worldwide, schools are closed to ensure the life of students and teachers in the high-risk countries such as the US, the UK, Italy, South Korea and so on. Various methods are adopted to continue learning, care students' the physical and mental health and ensure their growth amid the pandemic. In such a context, worldwide public opinion monitoring is playing an important role. Not only can it learn about the countermeasures of different countries, but also create opportunities for international cooperation to combat the coronavirus.

In this quarter, the focus is mainly on the measures for the resumption of production and class in the world and summed up the issues caused by online teaching both in the basic and the higher education and the countermeasures to it in the post-pandemic era. The countermeasures in education of different countries and international organization were collected and reported to the relevant departments of Ministry of Education.

By Tingwen Chang

The Bilingual Reports on “Remote Delivery Classroom” in Chinese and English



The Report on “Remote Delivery Classroom” in Chinese has been completed while the report in English is being edited. The development of VR application scenario is also ongoing.

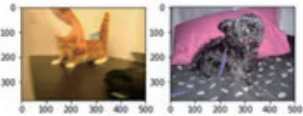
By Yongjie Yao

A first look at the dogs and cats dataset

We can start investigating the dataset by plotting the first picture in each category:

```
In [11]: plt.subplot(1,2,1)
plt.imshow(img.imread('cats/cat.0.jpg'))
plt.subplot(1,2,2)
plt.imshow(img.imread('dogs/dog.0.jpg'))
```

Out[11]: <matplotlib.image.AxesImage at 0x7f33ea1b7b38>



Cute. But let's be more specific and print some information about our images:

```
In [12]: images = []
for i in range(10):
    im = img.imread('cats/cat.{}.jpg'.format(i))
    images.append(im)
print('image shape', im.shape, 'maximum color level', im.max())
```

全部 / AI资源 / 在线服务平台 / 正文

26 06月 元卓在线编程平台 54 0

点击元卓在线编程平台进行编程实验。

什么是Jupyter Notebook?

Jupyter Notebook是以网页的形式打开，可以在网页页面中直接编写代码和运行代码，代码的运行结果会直接显示在代码块下显示。如在编程过程中需要编写说明文档，可在同一个页面中直接编写，便于及时的说明和解释。

实验案例

实验1: 关联老师公益算法直播课相关案例

地址: <http://yuanzhuo.bnu.edu.cn/my/course/71>

实验2: TensorFlow官方案例: 衣服图片分类

地址: <https://www.tensorflow.org/tutorials/keras/classification>

源码.zip 预览 下载

Information Technology Curriculum Standards for Senior Vocational Schools



Information Technology Curriculum Standards for Senior Vocational Schools have been updated to V1.5 Stable Edition.

By Yongjie Yao

Intellectual Property Rights Declaration



Respond the first review on the 3 appearance-design patents of 2018 “48H Design” Contest, and they are expected to be authorized with Q3 certificates.

The acceptance notice has been obtained after submitting 1 declaration material entitled "Edge Computing Platform for Learning Environment" to the Intellectual Property Administration.

2 declaration materials about “Edge Computing Platform” are in line after submitting by mailing.

The declaration of 1 material on “Edge Computing Platform of High Energy Physics”, 2 on "Fatigue Test Platform" and 11 on “Global Competition on Design for Future Education” are ongoing.

By Jingjing Jin

Media Publicity



The official account of WeChat has posted 90 articles (68 originals, 22 reprints) with more than 35,000 views. There are more than 700 news articles with the page view of 36,320 (PV) and 9,279 (UV).

By Hongyan Kuai

China Education Daily (CED) had an interview with Prof. Ronghuai Huang on Personal Data and Privacy Protection in Online Learning: Guidance for Students, Teachers and Parents newly released by Smart Learning Institute of Beijing Normal University.

Q On June 17, Beijing Municipal Education Commission announced that both online class and offline class shall be well prepared for the second semester of 2020. What do you think about the educational forms of teaching in the future?

Q You have pointed out that flexible teaching and active learning are the keys to the “new normal” of education in the future. In this circumstance, what are the roles of personal data and personal security?

In this context, we hope that the guidance can benefit teachers, students and parents on 5 aspects to accelerate sound development of education. First, raise the sense of security. Second, introduce the relative laws and policies. Third, operational training on data protections. Fourth, developing a habit of protecting personal data and privacy in daily life. Fifth, form the circumstance of data security and privacy protection in the field of education.

Personal Data and Privacy Should be Attached Great Importance

Q China has just passed the Civil Code of the People's Republic of China at the third session of the 13th National People's Congress. Personal data is a complex concept. What kind of personal data and privacy should we pay attention to in online learning?

A The Civil Code defines privacy as "the peace of a natural person's private life, private space, private activities and private information that are not willing to be known by others", and defines personal information as "all kinds of information recorded in electronic or other ways that can identify a specific natural person alone or in combination with other information".

At the same time, we can find the definition and category of personal data and privacy from the standards of organizations such as the Nation Information Security Standardization Technical Committee of China, as well as the legal documents of European Union countries, Japan and other countries. Based on these definitions, we further categorize 12 types of personal data, including: basic information, identity, biological personal certification, medical and health, professional background, financial and social contact, device information, etc. All of this data could be collected, leaked, or illegally exploited in the course of online learning and we should pay attention to these issues.

Q The recent years have frequently witnessed the incidents of personal data and privacy security both at home and abroad. What should students, teachers and parents do to protect personal data and privacy during online learning?

A We have systemic studies on the hidden risks of personal data security in the online learning and propose countermeasures based on before-during-after lesson strategies in order to illustrate the basic idea of personal data protection, provide specific guidance and ensure the personal data protection in online learning space.

Q At present, more and more teachers and students are using social network to support teaching and learning, which make the issues on privacy security trickier. What should we do during the online learning in such a context?

A Many teachers have never used online class until the epidemic quarantine, and many security issues emerged during this time. For example, password could appear on the screen during screen sharing; the unclosed camera and microphone also may cause sever privacy leakage.

As a medium, social network is widely used for online learning, allowing students to carry out collaborative learning via co-creating knowledge, sharing experiences, and communicating with their teachers and partners. In this process, we shall guide students to pay attention to privacy protection and discipline themselves with etiquette in online learning.

The Collaboration of Government, Enterprises and Schools to the Sound Development of Online Education

Q In recent years, China has made remarkable achievements in cyber security and data security. How can we strengthen cyber security and data security in the field of education?

A Cyber security and data security are related to national security and social stability. We can seize this opportunity and establish a sound supervision mechanism and a protection system for cyber space on many aspects.

First, develop a sound supervision mechanism, and further implement the accountability system for school cyber. Second, establish a scrutiny mechanism of the digital products of learning for teenagers stressing the quality of online learning platform and resources. Third, improve the innovation and quality of technology to ensure fair algorithm and data security. Fourth, promote the education and publicity on cyber security and enhance the capability of talents in the field cyber security.

Q To facilitate a sound development of online education, what are the roles of government, enterprises and schools in strengthening data security and privacy protection?

A To protect the personal privacy of individuals in online learning, the policy makers from government, technology providers from industry and other interested parties should collaborate and jointly create a safe environment for learners.

In 2019, the Cyberspace Administration of China launched a campaign with relevant departments to curb those harmful APPs that over collect and abuse the personal data of students.

Enterprises shall obey the relevant laws and regulations and strengthen the technical security of the platform itself. Personal Data Security Technical Guide for Online Education Platforms by UNESCO IITE and the research team of Tsinghua University offers assistance to the providers of online education platforms and other interest parties from various security dimensions such as risk, technology, management and sense of security.

Schools should offer guidance on the protections of personal data and privacy, strengthen the relevant training and cultivate the sense of security of students, teachers and parents, which are what our guidance serves for.

Jiefang Daily | Ronghuai Huang : Huge online education practice leads to the future!

The unexpected COVID-19 outbreak lengthens the winter holiday. Under the initiative of "Disrupted Classes, Undisrupted Learning", it is the first time to launch a massive online education in nationwide, and it becomes a "new normal" for all students to learning at home.

It is a massive practice of online education involving with 200 million students. What can we learn from it? Journalist interviewed the prof. Ronghuai Huang, the dean of Smart Learning Institute of Beijing Normal University

Q So far, online learning is still ongoing among primary and middle school students. We have noticed that there were many complaints from different parties. What do you think of it?

A From the perspectives of students, they have been used to the learning approaches of having lesson in the classroom, doing assignments at home and passively complying with teachers' arrangements. During the quarantine, teaching and learning have to entirely depend on the internet. During the class, students may be distracted from the class without teachers' supervision. Sometimes, it may cause virtual fatigue and physical exhaust after highly concentrating on the screen. Besides, the environment at home is different from school, which also may impact on students' learning. Therefore, students at home are not as efficient as they are in school.

From the perspective of teachers, they are accustomed to the teaching conditions, reliable multimedia facilities, and sound circumstances for student-teacher communication in the schools where they are able to adopt diverse pedagogies and take class management under control. However, at the moment, teachers have to carry out their work online suffering various uncertainties.

Online Class is not a Simple Duplicate of Schooling

Q Are online courses and online education the same thing?

A At present, online class is just a simplification of online education.

These online courses are mostly "one-way communication" supplemented by some "two-way interaction". Basically, the traditional class is moved to online platform. The traditional paradigms of class are still unchanged and the unitary spoon-fed pedagogy is still remained, even though the tools of online education like cyber platform are used. The potential of online education should be further unleashed.



Three Keys to Active Learning

Q What are the differences between online education and traditional class?

A Online education is characterized by flexible teaching and active learning. The former stresses the flexibility of all teaching activities while the latter reveal the foundation of online learning that students should learn proactively.

There are 3 keys to active learning. First, self-scheduling. It is frequently reported that primary and middle school students waste lots of time on cell phone and video game. Second, have a good self-regulation. Third, have self-evaluation by reviewing and taking exercises. The cultivation of active learning has been neglected by schooling. Thus, it is not only the students in primary and middle schools that lack of this ability, but also the university students. It is what exposed by this massive online education practice.

A Review of Education Informatization

Q At present, more than 100 countries and regions around the world have had school closure and adopted online class due to the Covid-19 pandemic. Online education has become a global issue.

A In some developed countries such as Canada and the United States, the informatization has developed rapidly and soundly both in basic education and higher education. Therefore, the teachers and students in those countries have a high digital literacy and they are able to conduct teaching activities and assignments via online platform. It is easier for them to realize the initiative of "Disrupted Classes, Undisrupted Learning". On the contrary, most African countries lags behind in education due to their undeveloped economy. At the same time, they are basically at the initial stage so it is quite difficult for them to maintain "Disrupted Classes, Undisrupted Learning".

We are on the Way to the Future

Q Will online education ebb or have further development in the schools at the post-pandemic era?

A There is no doubt that the developing direction to the future is strengthening the informatization, promoting the internet infrastructure, and accelerating the integration of online education and school education.

Q How to seize this opportunity to accelerate the further integration of online and school education?

A By this massive online education practice, the biggest issue in the current online education is exposed. Teachers have low proficiency at the technology of online education with insufficient perception in the characteristics of online teaching. Meanwhile, students' active-learning ability is to be improved.

Q You have mentioned the concept of "smart education". Like "smart cities", what will the future of education look like in the era of artificial intelligence?

A "Smart education" is one of the typical forms of future education.

"intelligent education" is one of the typical forms of future education. It aims to build an intelligent learning environment, change the traditional pedagogies and learning methods, and promote the education system in intelligent era. It is

characterized by openness, sharing, interaction and collaboration with the technical features of digitalization, networking, intelligence and multi-media.

In the future, the physical wall of the school will be broken. Learning environment will develop from closed to open and from the traditional multimedia classrooms to digital campus. And then, it will further evolve and merge into the smart city where the virtual world integrates with the real world. By then, the psychological wall of school cognition will be broken and schools will be merged into smart city, greatly expanding the time and space of the classroom. AI will be widely used in education, teaching process, and serve personalized lifelong education. Besides, the diversity and individual differences of students will be attached to greater importance by constructing new pedagogies based on the identity of “digital native”. Ultimately, the “people-oriented” principle will be realized.

China Education Daily | Ronghuai Huang : Capture key elements to effectively advance online learning

Influenced by the Covid-19 pandemic, the new semester was postponed. To respond to the initiative of “Disrupted Classes, Undisrupted Learning”, the Education Informatization Team of Beijing Normal University quickly took action. At the same time, National Engineering Laboratory for Cyberlearning and Intelligent Technology set up a volunteering group to combat the pandemic. It proposed a co-initiative entitled Ensuring the Pandemic Prevention and Serving “Disrupted Classes, Undisrupted Learning” Initiative with technological platforms of online education and enterprises and held a series of webinars entitled “the Demands and Implements of Online Education Frontline During the Pandemic Quarantine”, “the Contributions of Online Education to “Disrupted Classes, Undisrupted Learning” Initiative” and so on. Through the webinars, the laboratory studied the application and demand of online education in the front line with school faculty, government officers and experts, designed the guidances for online learning and provided academic and technical supports. This article was published in the Informatization Version of China Education Daily providing a reference for the implement of massive online education during the quarantine and transition period afterwards.

Education Informatization is the Foundation of Massive Online Education

1. Inter-ministerial coordination ensures smooth network and supports the learning by live, VOD and resources download.
2. Good quality education resources from diverse channels meet the actual needs of teachers.
3. Teachers’ trainings are strengthened by schools and regions to guide teachers to carry out online teaching.
4. Teachers are able to choose appropriate platforms and tools with various methods to implement online teaching.

Confronting the Difficulties and the Actual Demands in Online Education of Schools

1. Network jam is easily caused at the peak when numerous teachers and students are having lives, VODs, and resources downloaded at the same time.
2. The individualized demands of schools and teachers are hard to be met by the structural insufficiency of premium education resources in this special period.
3. The massive online education caused by emergency requires stronger supports by technology application while some teachers' capabilities are insufficient for it.
4. Students' abilities of adaption, self-learning and self-regulate are the important variables to teaching efficiency of online courses when teachers and students are divided in different spaces.

The Collaboration of Internet, Resources, Platform and Services to Promote Online Education Solidly

1. Further solidify the inter-ministerial and inter-regional coordination and commence the design and research of education network.
2. Pool social resources and tools and take the advantage of synergy between national platforms and online education enterprises.
3. Marshal the experts from Teaching Instruction Committee to provide guidance and service to the online education of primary schools and middle schools.



Academician Interviews | Jianping Wu: Education Network Promotes Education Informatization to a New Stage

Jianping Wu: Education Network Can Promote Education Informatization

Yang Shen, Yang Tian, Haijun Zeng

Academician Jianping Wu introduced the core technology of the Internet and the course of the construction of China Education and Research Network (CRENET). The breakthrough of IPv6 key technology by the team of Academician Wu made the CRENET at the global forefront and became the largest academic network worldwide. The application of “Internet + Education” is also what Academician Wu focusing on. Based on the current situation of Internet education, Academician Wu discusses the necessity of bridging the digital gap, promoting education fairness, and ensure teenagers’ healthy growth. He also defines the concept and the content of Internet education and analyzes the basic structure of education network and what reform it may bring to education management. He further points out, as the platform of intelligent education, education network will provide the services of high speed, stability, green and security to introduce various emerging technologies to education and play a positive role in education reform and resource construction. In the future, Education will be a basic platform of informatization and intelligentization, serving for “teaching, learning, managing, evaluating and testing” and accelerating the balanced development of China’s education to high quality.

Three academic papers

The New Instructional Form of the Future Education: Flexible Instruction and Active Learning

Ronghuai Huang, Yan Wang, Huanhuan Wang, Xing Lu, Bojun Gao

To restrain the spread of COVID-19, most schools around the world have been closed. Online learning on a large scale becomes the best choice for schools to resume learning. This educational practice with a very large scale has become a new educational form characterized by flexible instruction and active learning. This new form not only reflects the value of educational informatization, but also provides an opportunity to explore the futures of education. Summarizing the beneficial experience of online learning during the campus closure period, promoting teachers’ enthusiasm to use ICT technologies, and improving instructional methods can help increase the effectiveness of integrating technologies into instruction deeply. In the progress of merging online and offline learning, flexible instruction (based on flexible time, space and diverse instructional strategies) and active learning (oriented by personalized learning) will be the new normal of education in the future. Flexible instruction provides the necessary conditions to convert passive learning into active learning. Promoting active learning is beneficial for the development of self-regulation competency, which is the basic drive to bring education to the future. Through flexible instruction and active learning, learners can implement personalized learning with individual pace according to their own needs, so that they can involve in authentic learning with a goal to complete complex tasks in real life.

The Comparative Educational Research in Intelligent Era: an Iterative Method Based on Deep Inquiry

Ronghuai Huang, Junfeng Yang, Dejian Liu, Huanhuan Wang

The development of education is influenced by a society's productive power and the developmental status of the science and technology. The dominating feature of education differs in agricultural society, industrial society and information age. Along with the integration of intelligent technologies into education, educational technology upgrades and iterates itself in a faster pace than before. As many countries have made great achievement to informatization their education, a lot of issues and challenges have also emerged. To deeply understand and compare the difference in educational informatization among different countries, and to promote the prosperity of educational informatization, comparative studies must follow rigor and appropriate methods. In this article, we proposed a new framework to guide the procedure of comparative educational study based on the analysis and summary of traditional comparative education research methods: An Iterative Comparison Framework with Deep Inquiry. It consists of six major phases proceeding in an interactive way, including conceptualization, contextualization, comparison, explanation, reconceptualization and application. The aim is to increase the depth and width of comparative study findings therefore to generate more meaningful educational insights.

Teacher's Roles in AI Era: Ontology, Epistemology and Axiology

Xing Lu, Yang Shen, Haijun Zeng, Ronghuai Huang

The roles and definitions of teachers in the era of artificial intelligence have changed greatly, but technology will not replace human teachers. From the perspective of ontology, this study reconstructs the ontology of teachers in the era of artificial intelligence, forming a "new subject teacher" composed of two subsystems: human teacher and machine tutor. From the perspective of epistemology, the operating mechanism of "new subject teacher" is clarified, that is, under the function of dissipative structure, the "non-balanced and orderly cooperative system" composed of machine tutor and human teacher is formed through the cooperation between two subsystems. From the perspective of value theory, it is clarified that the basic goal of the development of "new subject teacher" in the era of artificial intelligence is to achieve orderly teaching activities, promote autonomous teaching system and drive man-machine co-evolution. The construction and deconstruction of the "new subject teacher" in the era of artificial intelligence in this study provides guidance for understanding the world view of future teachers in the era of artificial intelligence, and provides theoretical support for the development of teachers in the era of artificial intelligence.

Exclusive Interview



Dr. Yang Tian

Doctor of Faculty of Education of
Beijing Normal University
Lecturer, Department of Educational
Technology, Yangzhou University

Q

Hello, Dr Tian! The pandemic in 2020 has enormously impacted on our daily life and influenced your doctoral dissertation defense. You are the first doctoral student who passed the defense by virtual method in Beijing Normal University. Could you briefly introduce the defense process?

A

The Covid-19 pandemic outbreak in early 2020 left a deep imprint on us. Under such a background, I became the first doctoral graduate who adopted virtual defense. This event was recorded in the history of our university and became a unique memory of mine.

The defense committee was chaired by Prof. Yan Dong from the Faculty of Education of Beijing Normal University and included Researcher Song Li from the Open University of China, Prof. Haiguang Fang from Capital Normal University, Prof. Yanyan Li and Prof. Yushun Li from Beijing Normal University as member. Prof. Qingyun Tu, the vice-chairman of Degree Evaluation Committee, vice president of Beijing Normal University and the leading cadres from the Faculty of Education and Provost's Office and Academic Affairs inspected the defense. The Faculty of Education attached great importance to the defense and had a sound preparation referring the Guidance to the Operations of Virtual Defense for Postgraduate Students. Besides, the faculty even marshaled the experts and secretaries of Defense Committee as well as technicians to dress rehearsals many times, and draw plans in case of emergency.

The defense was carried out mainly by the platform of ZOOM with WeChat group as supplementary in case of emergency, and the whole process was recorded by designees. The procedures and the requirements of the virtual defense are same as the real. Prof. Dong Yang read out the name list of Defense Committee before the supervisor Prof. Huang Ronghuai introduced the degree candidate who would afterwards read out Originality Statemen, briefed essence of his dissertation and answered the questions raised by the Defense Committee. Later, the defense committee have an anonymous voting via WeChat and Prof. Dong Yang revealed the resolution in the end. After inspection, Prof. Tu Qingyun, through ZOOM, expressed

his appreciation to the Defense Committee for their devotion and highly praised the work by the Faculty of Education. Meanwhile, he also pointed out virtual dissertation defense is a brand-new form by which this defense achieved success and meet the standards of Beijing Normal University. The Faculty of Education should continue the sound preparation and the Provost's Office and Academic Affairs should summarized the instructive experience for other faculties.

Screen language was also important during the virtual defense of doctoral dissertation. To ensure the defense ran smoothly, it was necessary to have adequate preparation for PowerPoints and screen languages including eye contact, facial expression, gesture and time management.

The essence of doctoral defense is dissertation instead of the form. The experts of Defense Committee mainly focus on the quality and the innovations of dissertation and whether its methodologies are adequate or not. After comprehensively reviewing and assessing the doctoral dissertations, the experts will raise relevant questions and comments. Therefore, the key to passing a doctoral defense lies in researching training and practice in the daily grin.

Q After the defense, do you have any anticipation of defense form in the future academia?

A I believe, virtual methods will be popularized in doctoral dissertation defense with the further development of cyber technology. Even though the virtual defense was adopted at a disadvantage during pandemic, the performance of virtual defense was as desirable as the real and it was even better than the real in some aspects through various preparation.

For example, dissertations, PowerPoints and relevant materials should be sent to the experts of Defense Committee. Also, it seemed to be easier to make contact with the experts because of better image quality and audio quality. Besides, the number of auditors in a real defense could be limited by the space while the virtual defense could be simultaneously watched by hundreds of visitors. The virtual defense is constructive to academic communication, so I hope it can be further generalized to improve the quality of doctoral defense.

Thanks to my constant effort, I passed the defense and graduated with doctoral degree within 3-year schooling. The outbreak of Covid-19 pandemic did bring me deep anxiety about postponed graduation, but my completed dissertation and what I had learnt and experienced during the doctoral studies encouraged me a lot in that situation.

In 2017, I devoted the arrangement of the Sino-US Forum expanding my academic arena and broadened my horizons; I contributed to the application of an important project by the Department of Science and Technology of Guangxi Zhuang Autonomous Region, and I am glad that my application was accepted. Also, I took charge of writing an internal reference entitle the Suggestions on Responding the MOOC and Developing the "Online Education" of China. Besides, I also joined many other projects such as the education planning of Beijing, student recruit plan of software engineering, composing a speech for Minister Du, teaching assistant of undergraduate students, and the application for the funding of Ministry of Education by China Mobile. In 2018, I was appointed as the teaching assistant of undergraduate and responsible for the Report on the Development Index of Online Education Products. I also took part in many projects such as the review of high school information technology textbooks,

specialized training in education informatization for the principals and the establishment of demonstration zone for intelligent education. In 2019, I was in charge of applying the Key Projects of National Education Planning such as the Studies on the Management Mechanism of Online Education by the Ministry of Education, the Studies on Supervision Mechanism of Online Education by Beijing Municipality, and the establishment of premium thinktank. At the same time, I also joined some projects entrusted by enterprises such as TAL, Tencent and Byte Dance and built up a sound exchange channel with them. Besides, I continued the specialized training in education informatization for principals and the work of establishing demonstration zone of intelligent education.

In 2020, I was involved in the studies and reports on “Disrupted Classes, Undisrupted Learning” during the pandemic and the application for the Research Base of Educational Informatization Strategy of Ministry of Education. In general, I led a fulfilled life in the three-year research and gained a lot from the all-round training in management, research, communication and so on. I would like to suggest my younger colleagues actively participating the projects by our institute and working assiduously, by which the academic capability can be improved and the personal goal can be reached.

How time flies! It seems only like yesterday when I was busy for my doctoral dissertation and the defense. Now, I am a lecturer of the Department of Education Technology of Yangzhou University. As a lecturer specialized in education technology, both lecture and research are the important works of mine currently. Whenever I encounter difficulties in my work, I tend to recall the experiences I had in the Smart Learning

Institute which can inspire me to move forward. I would like to express my gratitude to my supervisor Prof. Ronghuai Huang who gave me great supports to my dissertation and academic improvement with wise suggestions. I also would like to express my gratitude to the assistance by the members of my team and the colleagues of the Smart Learning Institute. There are so many people I would like to thank that I cannot list their names one by one. Words cannot fully express my gratitude. Only by hard working can I reciprocate what I received.